

FILE COPY

ROUTE CONCEPT REPORT

ROUTE 154

IN

SANTA BARBARA COUNTY

CALTRANS DISTRICT

5

1990
~~1986~~

ROUTE CONCEPT REPORT SUMMARY

ROUTE 154

SB 0.0 TO 32.2

ROUTE CONCEPT

Route 154 should be maintained or improved as indicated by the Table below and the attached Route Segment Data pages. Recommended and/or existing traffic Levels of Service* range from LOS B to LOS D based on a 2-lane conventional highway with minor portions of 2 and 4-lane expressway in both the rural and urban areas. There is also a 2-lane freeway portion in the City of Santa Barbara.

<u>Segment</u>	<u>P.M. to P.M.</u>	<u>Concept LOS</u>	<u>Prop. Improvement</u>
No. 1 (SB)	0.0 to 12.2	D-40	40' Min. 2-lane Facility
No. 2 (SB)	12.2 to 32.2	D-35	40' Min. 2-lane Facility to P. M. 23.4, Passing lanes at locations where possible and practical.

It should be noted that the concept LOS may not agree with any LOS established by the local planning agencies. The concept LOS, for the most part, is based on present traffic conditions. In some instances, this may vary depending on traffic needs and/or financial and technical considerations.

CONCEPT RATIONALE

Existing Route 154 acts as a shortcut for Route 101 between Santa Barbara and Los Olivos. It is situated in rugged terrain (P.M. 12.2 to P.M. 30.0). For the most part it is a narrow, 2-lane road on steep grades, in high cuts and fills. The Santa Barbara County RTP calls for a maximum of two through lanes on Route 154. It is designated a minor arterial.

AREAS OF CONCERN

Route 154 will operate at LOS E & F from P.M. 12.2, East of the Santa Ynez River, to P.M. 30.2, San Antonio Creek.

* Levels of Service are defined in the appendix of this report.

IMPROVEMENTS

The purpose of this report is to establish a concept without describing specific improvements. Specific improvements will be addressed in a follow-up document - The Route Development Plan.

I approve this Route Concept Report as the guide toward which today's decisions and/or recommendations should be directed.

Approved:



THOMAS L. POLLOCK
District Director of
Transportation

Approved:

D. L. WIEMAN, Chief
Division of Transportation
Planning

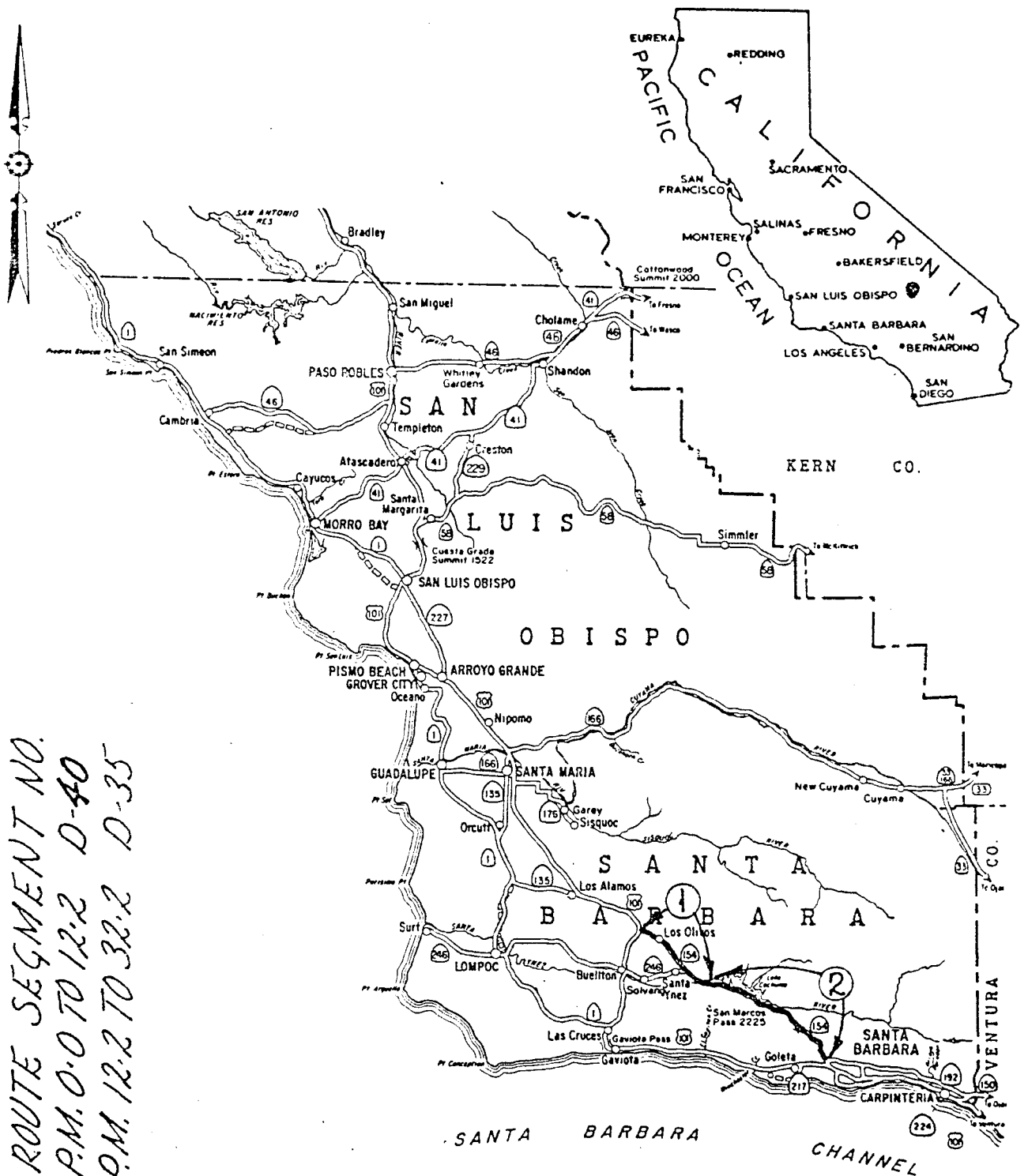
Approved:

ALLAN HENDRIX, Chief
Division of Highways and
Programming

Approved:

RUSSELL LIGHTCAP, Chief
Division of Project Development

(X) = ROUTE SEGMENT NO.
 ① P.M. 0.0 TO 12.2 D-40
 ② P.M. 12.2 TO 32.2 D-35



DISTRICT 5

ROUTE 154



ROUTE 154 CONCEPT REPORT

P.M. 0.0 TO P.M. 32.2

PREFACE

The following represents Caltrans' District 5's format for route concept reports. Route Concept Reports follow a specific outline and are supported by Route Segment Data pages. You will find that practically all existing route data is shown on the Route Segment Data pages at the appropriate locations. Specific improvements and costs are not shown as they will be discussed in the upcoming route development plans.

The Route Concept Report (RCR) is a planning document which expresses the Department's judgment on what the characteristics of the State highway should be to respond to the projected travel demand over the 20-year planning period.

The RCR contains the Department's goal for the development of each route in terms of level of service and broadly identifies the nature and extent of improvements needed to reach those goals. The RCR then provides the basis for the preparation of route development plans and the system analysis which indicates the level of service provided on the system at a given level of funding.

Route Concept Reports are prepared in the districts and represent the combined expertise of district staff. Facility dimensions (e.g., roadway widths or number of lanes on a multi-laned facility) discussed in the RCR represent an initial planning approach to scoping candidate improvement and determining estimated costs.

All information in the Route Concept Report is subject to change as conditions change and new information is obtained. Consequently, the nature and size of identified improvements may change as they move through the project development stages, with final determinations made at the time of project planning and design. If the nature and size of improvements change from that included in this report during later project development stages, this will be cause to review the Route Concept Report for this route.

It should be noted that the proposed concepts shown on the Route Segment Data pages are minimums that may or may not suffice in particular situations. Any proposed improvement or improvements will still be judged on an individual basis as to merit or fitting a particular situation.

In some cases, resurfacing, restoration and rehabilitation (3R) projects, will not adhere to the minimum concepts stated in this report. In these instances, exceptions to the minimum will be requested of the FHWA for funding purposes.

ROUTE 154

SB - 0.0 TO 32.2

1. Route Description Within District 5

Route 154 in Santa Barbara County is 32.2 miles in length. For the most part it is a 2-lane conventional highway with 2 and 4-lane expressway sections. There is a small section of 2-lane freeway within Santa Barbara.

Route 154 begins at the junction of Route 101 North of Buellton, and continues southeasterly through rolling and mountainous terrain returning to a junction with Route 101 in Santa Barbara.

2. Route Segmentation

This route has been incorporated into 2 segments which are shown on the attached Route Segment Data pages.

Route segments are based on district boundaries, county boundaries, change in functional classification, significant changes in terrain, and changes in the function or use of the route.

3. Purpose of Route

The primary purpose of Route 154 is serving interregional traffic, much of which is recreational in nature particularly in the summer months. Commuter traffic is also prevalent.

Route 154 is not a SHELL (State Highway Extra Legal Load) Route.

Route 154 is designated Federal Aid Primary. It is on the freeway-expressway system.

4. Existing Facilities

Refer to the Route Segment Data pages for current status (geometrics, traffic, Accident Data, etc.).

In the adopted 1986 STIP, under New Facilities and/or Operational Improvements, there are no projects scheduled for Route 154.

5. Present and Future Operating Conditions

Refer to the Route Segment Data pages for present and future operating conditions.

Public Transit (Daily)

Public transit has no bearing or significant effect on the operational characteristics of Route 154.

Rail Service

None

6. Concerns at the end of the STIP Period

During the current STIP period, Route 154 will not exceed any of the guidelines listed below to cause a concern. Although the accident rate guidelines are not exceeded, there have been a series of fatal accidents on Route 154 that has caused concerns by the local citizens. Any future improvements considered for this route should recognize this problem.

The Route Concept Report guidelines are based on existing operating speeds, level of service and accident rates.

Where the levels of the Route Concept Report criteria are exceeded, it is shown on the Route Segment Data pages as an asterisk next to the appropriate item.

7. Future Problems (6-20 year period)

Route 154 will operate at LOS E & F from P.M. 12.2, East of the Santa Ynez River, to P.M. 30.2, San Antonio Creek.

8. Route Concept (2005)

Concept Level of Service (LOS)

The district shows a concept LOS of D-40 for Segment #1 and D-35 for Segment #2.

Minimum Typical Cross Section

The minimum typical cross section will vary depending upon the segment involved.

The route concept will include widening of the route only where operational, accident or route gap problems exist or are projected to exist. This does not preclude other decisions as more or better information becomes available.

Alignment Changes

The portion of Route 154 that skirts Lake Cachuma (Segment No. 2) could be affected by a proposal to heighten the existing dam. Portions would have to be realigned as the existing alignment, in places, would be under water by the expanded lake.

9. Route Improvements

All proposed route improvements are listed on the attached Route Segment Data pages.

In some cases, due to overriding environmental or cost considerations, the proposed concept may be too impractical to construct. In such cases, alternatives will be fully discussed and documented in the project report.

10. Alternate Route Concepts Considered

No alternate route concepts have been considered.

It should be noted that any improvements to Route 154 will be minimal as rugged terrain and environmental considerations will be cause for concerns.

APPENDIX

You will noted that the term "Level of Service" (LOS) appears frequently within this report. Level of Service is a term used to describe the quality of operation of a highway facility. It is a qualitative measure of the effect of such factors as speed and travel time, traffic interruptions, freedom to maneuver, driving comfort, convenience, safety and operating cost. It is based on peak traffic hours in this report. On urban street systems, the quality of flow is most frequently controlled by traffic conditions at signalized intersections. The flow characteristics at the six defined levels of service, A through F, can be described as follows:

LEVEL OF SERVICE DEFINITIONS (Uninterrupted Traffic Flow)

Level of Service A (LOS A) describes a condition of free flow, with low volumes and high speeds. Traffic density is low, with speeds controlled by driver desires, speed limits, and physical roadway conditions.

Level of Service B (LOS B) is in the zone of stable flow, with operating speeds beginning to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom to select their speed and lane of operation.

Level of Service C (LOS C) is still in the zone of stable flow, but speeds and maneuverability are more closely controlled by the higher volumes. Most of the drivers are restricted in their freedom to select their own speed, change lanes, or pass.

Level of Service D (LOS D) approaches unstable flow, with tolerable operating speeds being maintained though considerably affected by changes in operating conditions. Fluctuations in volumes and temporary restrictions to flow may cause substantial drops in operating speeds.

Level of Service E (LOS E) cannot be described by speed alone, but represents operations at even lower operating speeds than in level D, with volumes at or near the capacity of the highway. Flow is unstable, and there may be stoppages of momentary duration.

Level of Service F (LOS F) describes forced flow operation at low speeds, where volumes are below capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially and stoppages may occur for short or long periods of time because of the downstream congestion. In the extreme, both speed and volume can drop to zero.

LEVEL OF SERVICE DEFINITIONS (Traffic Signal Controlled)

Level of Service A is unobstructed flow; no approach signal phase is fully utilized by traffic and no vehicle waits longer than one red indication.

Level of Service B is stable operation; an occasional approach signal phase is fully utilized and a substantial number are approaching full use.

Level of Service C is stable operation with intermittent loading, relatively frequently. Occasionally, drivers may have to wait through more than one signal indication, and backups may develop behind turning vehicles.

Level of Service D shows delays to approaching vehicles may be substantial during short periods during the peak period, with periodic clearance of developing queues.

Level of Service E shows unstable flow conditions with long queues over extended periods. Capacity occurs at the limit of this level.

Level of Service F shows forced flow conditions, with demand exceeding capacity; highly variable delay and long backups.

ROUTE SEGMENT DATA

DISTRICT: 5 COUNTY: SB ROUTE: 154
SEGMENT NUMBER: 1 P.M.: 0.0 to P.M.: 12.2 LENGTH: 12.2
DESCRIPTION: North Jct. Rte 101 to east Santa Ynez River

FUNCTIONAL CLASSIFICATION: Minor Arterial

FEDERAL AID CLASSIFICATION: Primary

TYPE OF FACILITY: Conventional & Expressway

TYPE OF TERRAIN: Flat & Rolling

NUMBER OF TRAFFIC LANES: 2

LANE WIDTH: 12'

SHOULDER WIDTH: 8'

R/W WIDTH: 100' to 150'

MEDIAN WIDTH: 0'

ADT (Present, ¹⁹⁸⁵~~1985~~): ~~6,200~~ 6,500

ADT (Future, ²⁰⁰⁵~~2005~~): ~~11,000~~ 13,000

PEAK HOUR VOLUME (Present): ~~1,240~~ 1,200

DIRECTIONAL SPLIT: 55%

HOURS DELAY, P.M. PEAK: None

V/C RATIO: ~~0.39~~ 0.27 LOS: B % TRUCKS: 5%

SIGNALIZED INTERSECTIONS: 0

ACCIDENT RATE: ~~1.06~~ 0.96

FAT: ~~0.050~~ 0.046 F&I: ~~0.63~~ 0.50

COMP. STWIDE ACC. RATE: ~~1.19~~ 1.08

FAT: ~~0.048~~ 0.046 F&I: ~~0.64~~ 0.53

PROPOSED ROUTE CONCEPT (2005): 40' min. 2 lane facility

ROUTE CONCEPT LOS (2005): D-40

ANTICIPATED LOS (2005): D-40

DISTRICT: 5 COUNTY: SB ROUTE: 154

SEGMENT NUMBER: 2 P.M.: 12.2 to P.M.: 32.2 LENGTH: 20.0

DESCRIPTION: East Santa Ynez River to south Jct. Rte 101

FUNCTIONAL CLASSIFICATION: Minor Arterial

FEDERAL AID CLASSIFICATION: Primary

TYPE OF FACILITY: Conventional & Expressway

TYPE OF TERRAIN: Rolling & Mountainous

NUMBER OF TRAFFIC LANES: 2 & 4

LANE WIDTH: 10' to 12'

SHOULDER WIDTH: 0' to 8'

R/W WIDTH: 100' to 150'

MEDIAN WIDTH: 0'

ADT (Present, ~~1985~~): 9,000

ADT (Future, 2005): 15,200

PEAK HOUR VOLUME (Present): 1,485

DIRECTIONAL SPLIT: 60%

HOURS DELAY, P.M. PEAK: None

V/C RATIO: 0.82 C 45 LOS: D % TRUCKS: 3%

SIGNALIZED INTERSECTIONS: 2

ACCIDENT RATE: ~~1.59~~ 1.63

FAT: ~~0.035~~ 0.059 F&I: ~~1.00~~ 0.59

COMP. STWIDE ACC. RATE: 1.70 ✓

FAT: 0.059 ✓ F&I: 0.91 ✓

PROPOSED ROUTE CONCEPT (2005): 40' min. 2 lane facility where needed,
passing lanes where appropriate

ROUTE CONCEPT LOS (2005): D-35

ANTICIPATED LOS (2005): w/proposed concept, E-30*
w/o proposed concept, F-25*

ROUTE SEGMENT DATA

DISTRICT: 5 COUNTY: SB ROUTE: 154

SEGMENT NUMBER: 1 P.M.: 0.0 to P.M.: 12.2 LENGTH: 12.2

DESCRIPTION: North Jct. Rte 101 to east Santa Ynez River

FUNCTIONAL CLASSIFICATION: Minor Arterial

FEDERAL AID CLASSIFICATION: Primary

TYPE OF FACILITY: Conventional & Expressway

TYPE OF TERRAIN: Flat & Rolling

NUMBER OF TRAFFIC LANES: 2

LANE WIDTH: 12' SHOULDER WIDTH: 8'

R/W WIDTH: 100' to 150' MEDIAN WIDTH: 0'

ADT (Present,1990): 6,800

ADT (Future,2010): 13,000

PEAK HOUR VOLUME (Present): 1,360

DIRECTIONAL SPLIT: 55%

HOURS DELAY, P.M. PEAK: None

V/C RATIO: 0.27 LOS: B % TRUCKS: 5%

SIGNALIZED INTERSECTIONS: 0

ACCIDENT RATE: 0.96 FAT: 0.046 F&I: 0.50

COMP. STWIDE ACC. RATE: 1.08 FAT: 0.046 F&I: 0.58

PROPOSED ROUTE CONCEPT (2010): 40' min. 2 lane facility

ROUTE CONCEPT LOS (2010): D-40

ANTICIPATED LOS (2010): D-40

ROUTE SEGMENT DATA

DISTRICT: 5 COUNTY: SB ROUTE: 154
SEGMENT NUMBER: 2 P.M.: 12.2 to P.M.: 32.2 LENGTH: 20.0
DESCRIPTION: East Santa Ynez River to south Jct. Rte 101

FUNCTIONAL CLASSIFICATION: Minor Arterial

FEDERAL AID CLASSIFICATION: Primary

TYPE OF FACILITY: Conventional & Expressway

TYPE OF TERRAIN: Rolling & Mountainous

NUMBER OF TRAFFIC LANES: 2 & 4

LANE WIDTH: 10' to 12' SHOULDER WIDTH: 0' to 8'
R/W WIDTH: 100' to 150' MEDIAN WIDTH: 0'

ADT (Present, 1990): 12,000

ADT (Future, 2010): 19,000

PEAK HOUR VOLUME (Present): 2,000

DIRECTIONAL SPLIT: 60%

HOURS DELAY, P.M. PEAK: None

W/O RATIO: 0.85 LOS: D % TRUCKS: 3%

SIGNALIZED INTERSECTIONS: 2

ACCIDENT RATE: 1.63 FAT: 0.059 F&I: 0.89

COMP. STWIDE ACC. RATE: 1.70 FAT: 0.059 F&I: 0.91

PROPOSED ROUTE CONCEPT (2010): 40' min. 2 lane facility where needed,
passing lanes where appropriate

ROUTE CONCEPT LOS (2010): D-35

ANTICIPATED LOS (2010): w/proposed concept, E-30*
w/o proposed concept, F-25*